

part 3

150920084

# Attachment Exhibit No. 1

160920084

GANGADHARAN  
TESTIMONY

**COMMONWEALTH OF VIRGINIA**  
**STATE CORPORATION COMMISSION**

APPLICATION OF	)	
	)	
C4GT, LLC	)	
	)	
For a Certificate of Public Convenience and	)	Case No. PUE-2016-00104
Necessity to Construct and Operate an	)	
Electric Generating Facility in Charles City	)	
County, Virginia pursuant to Va. Code	)	
§ 56-580D	)	

**PUBLIC VERSION**

**DIRECT TESTIMONY**

**OF**

**ANAND GANGADHARAN**

**ON BEHALF OF**

**C4GT, LLC**

**SEPTEMBER 14, 2016**

**DIRECT TESTIMONY  
OF  
ANAND GANGADHARAN  
ON BEHALF OF  
C4GT, LLC  
BEFORE THE  
COMMONWEALTH OF VIRGINIA  
STATE CORPORATION COMMISSION  
CASE NO. PUE-2016-00104**

1    **Q.    PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.**

2    A.    My name is Anand Gangadharan and my business address is 23955 Novi Road, Novi,  
3    Michigan.

4    **Q.    ON WHOSE BEHALF ARE YOU TESTIFYING?**

5    A.    I am testifying on behalf of C4GT, LLC ("C4GT").

6    **Q.    WHAT IS YOUR AFFILIATION WITH C4GT?**

7    A.    I am the President of C4GT, the entity proposing to construct and operate the 1,060 MW  
8    (net) natural gas fired electric generating facility to be located in Charles City County,  
9    Virginia (the "Facility"). I am also the President and Chief Executive Officer of NOVI  
10    Energy LLC ("Novi Energy"). C4GT has retained NOVI Energy to support and manage  
11    all aspects of the development of this project.

12   **Q.    PLEASE SUMMARIZE YOUR EDUCATIONAL BACKGROUND AND**  
13   **PROFESSIONAL EXPERIENCE.**

14   A.    A summary of my experience is in Exhibit 3 to Attachment 1 to the Application.

15   **Q.    HAVE YOU PREVIOUSLY TESTIFIED BEFORE THIS COMMISSION?**

1 A. Yes, I have testified before this Commission concerning South Boston Energy, LLC's  
2 application requesting a certificate of public convenience and necessity under § 56-580 D  
3 of the Code of Virginia ("Code") for approval to construct, own, and operate a 49.9 MW  
4 (net) biomass electric generating facility in Halifax County, Virginia in Case No. PUE-  
5 2010-00126.

6 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY IN THIS PROCEEDING?**

7 A. I will provide an overview of C4GT's Application for a Certificate of Public  
8 Convenience and Necessity and sponsor C4GT's Application and all of Attachment 1 to  
9 the Application, except for Section 12 (a) through (1) of Attachment 1, which are being  
10 sponsored by Mr. Thomas O. Pritcher, a Senior Engineer with Environmental Consulting  
11 and Technology, Inc. Attachment 1 provides C4GT's response to the "General  
12 Information, Electric Generating Facility Information and Documents to be Included in  
13 the Application for Electric Generating Facilities Greater than 50 MW" found in 20 VAC  
14 5-302-20.

15 **Q. WHAT IS C4GT SEEKING FROM THE COMMISSION IN THIS**  
16 **PROCEEDING?**

17 A. C4GT is requesting that the Commission issue a Certificate of Public Convenience and  
18 Necessity ("CPCN") to construct and operate the Facility. In addition, C4GT requests  
19 that the Commission grant such other authority and relief as may be deemed proper under  
20 the circumstances of this case.

21 **Q. PLEASE BRIEFLY DESCRIBE THE FACILITY AND THE TECHNOLOGY TO**  
22 **BE EMPLOYED?**

1 A. The Facility will be a two-on-one combined cycle electrical generating station, with a net  
2 nominal generating capacity of 1,060 MW at 95°F ambient temperature, consisting of  
3 two natural gas-fired combustion turbine generators with downstream natural gas heat  
4 recovery steam generators (HRSGs) with supplemental firing. The steam that is  
5 generated in the HRSGs is used in a steam turbine generator for additional power output  
6 and increased thermal cycle efficiency.

7 **Q. PLEASE DESCRIBE THE COMBUSTION TURBINES THAT C4GT**  
8 **ANTICIPATES USING FOR THE FACILITY.**

9 A. C4GT is seeking the option to install either of the following H-class combustion turbines:  
10 the General Electric 7HA.02 or the Siemens SGT6-8000H (1.4+). Regardless of the  
11 manufacturer that ultimately is selected for the turbines, the power island will consist of  
12 combustion turbines, a steam turbine, and HRSGs. The combustion turbines will be fired  
13 with natural gas and will be furnished with low NOx burners. The combustion turbines  
14 will be furnished with evaporative inlet air cooling to lower the inlet air temperature  
15 during periods of high ambient temperature. The combustion turbines are arranged in a  
16 “two-on-one” arrangement, which means a configuration of two combustion turbines and  
17 a single steam turbine. More specific information about the technology to be used is set  
18 forth in Section 8 of Attachment 1 to the Application.

19 **Q. PLEASE DESCRIBE THE FACILITY SITE.**

20 A. C4GT intends to construct, operate, and maintain the Facility in Charles City County,  
21 Virginia. The Facility will be located at 3001 Roxbury Road (the “Site”). The Site is  
22 comprised of approximately 88 undeveloped acres. C4GT holds an option to purchase  
23 the Site from the Charles City County Board of Supervisors and intends to exercise the

1 option and purchase the land prior to the commencement of construction activities. The  
2 Facility has access to Virginia Electric and Power Company ("VEPCO," d/b/a Dominion  
3 Virginia Power) transmission grid at either the 230 kV or 500 kV voltage levels via  
4 existing lines that currently transverse the Site. The Facility will procure natural gas  
5 from a 16 inch Virginia Natural Gas, Inc. ("VNG") intrastate natural gas transmission  
6 line located along the eastern edge of the Site.

7 **Q. HAVE ANY LAND USE APPROVALS BEEN ISSUED REATING TO**  
8 **CONSTRUCTING AND OPERATING THE FACILITY?**

9 **A.** Yes. The Charles City County Board of Supervisors approved a Special Use Permit  
10 regarding the Site on May 28, 2015, as amended on December 9, 2015 that will allow  
11 operation of the Facility in Charles City County. A copy of the SUP is attached as  
12 Exhibit 7 to Attachment 1 to the Application.

13 **Q. WILL THE FACILITY REQUIRE ANY ADDITIONAL APPROVALS FROM**  
14 **CHARLES CITY COUNTY?**

15 The Facility will need various other approvals from Charles City County that will be  
16 applied for at the appropriate time including: land disturbance approval, and water quality  
17 impact assessment. Proposed well and septic infrastructure plans will be submitted to  
18 Charles City County for review before the start of construction.

19 **Q. PLEASE GENERALLY ADDRESS THE ENVIRONMENTAL IMPACTS OF THE**  
20 **FACILITY?**

21 **A.** The Facility will be designed to meet or exceed all environmental requirements of the  
22 Virginia Department of Environmental Quality and the United States Environmental  
23 Protection Agency.

1 C4GT has retained the services of Environmental Consulting and Technology, Inc.  
2 (“ECT”) to addresses environmental impact and permitting aspects of the Facility. The  
3 direct testimony of Thomas O. Pritcher, a Senior Engineer with ECT, sponsors the  
4 Environmental Assessment (Exhibit 9 to Attachment 1 to the Application) and provides  
5 an environmental analysis of the Facility.

6 **Q. PLEASE BRIEFLY DESCRIBE THE FACILITY’S FUEL SUPPLY**  
7 **ARRANGEMENTS.**

8 A. C4GT will utilize standard pipeline quality natural gas as the exclusive fuel for electric  
9 generation. C4GT will obtain this natural gas from various production basins in the  
10 United States. The Facility will receive this pipeline-quality natural gas delivered to the  
11 Site by an existing high pressure 16 inch diameter pipeline owned by VNG. An existing  
12 VNG pipeline traverses the Site and the natural gas interconnection delivery point will be  
13 located on the Site. C4GT is presently in discussions with VNG concerning the  
14 appropriate rates, terms and conditions for transportation service and interconnection at  
15 the Site. It is anticipated that the natural gas supply will be delivered to the Facility  
16 through the VNG pipeline from the following interstate pipeline transmission systems:  
17 Transcontinental Gas Pipe Line Company, LLC, Dominion Transmission, Inc. and the  
18 Columbia Gas Transmission Company.

■ [BEGIN CONFIDENTIAL] ■  
■  
■  
■  
23 ■



1 [REDACTED]  
2 [REDACTED]  
3 [REDACTED] [END]

4 **CONFIDENTIAL]**

5 **Q. PLEASE DISCUSS THE FACILITY'S ELECTRIC TRANSMISSION**  
6 **INTERCONNECTION REQUIREMENTS.**

7 A. The Site is located less than one mile from the existing VEPCO Chickahominy  
8 substation. The Facility intends to connect to the Chickahominy substation at either the  
9 230kV or 500kV voltage levels based on the results of the PJM Interconnection, L.L.C.  
10 ("PJM") studies outlined below. On March 31, 2016, C4GT submitted an  
11 Interconnection Application to PJM to initiate PJM's interconnection process that  
12 includes the following three studies: (1) Feasibility Study, (2) System Impact Study and  
13 (3) Interconnection Facilities Study. PJM completed its Feasibility Study in August,  
14 2016 and a copy is attached as Exhibit 10 to Attachment 1. The PJM System Impact  
15 Study is scheduled to be completed by March 31, 2017, and the Facility Study will follow  
16 promptly thereafter.

17 **Q. PLEASE DESCRIBE C4GT'S PLANS CONCERNING SALES OF THE**  
18 **FACILITY'S OUTPUT.**

19 A. C4GT is proposing to build and operate the Facility as an independent merchant power  
20 plant to supply electricity on a wholesale basis and anticipates the electricity it generates  
21 will supply the electricity markets in the region. C4GT intends to file with Federal  
22 Energy Regulatory Commission ("FERC") to obtain Exempt Wholesale Generator  
23 ("EWG") status and market-based rate authorization for wholesale sales of electric

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1 energy, capacity and ancillary services. These FERC filings and authorizations will occur  
2 prior to generating power from the Facility. C4GT plans to use energy and capacity from  
3 the Facility to satisfy the future needs of the wholesale market.

4 **Q. WILL C4GT'S RATES BE REGULATED PURSUANT TO SECTION 56-585.1 OF**  
5 **THE CODE OF VIRGINIA?**

6 **A.** No. C4GT's EWG status and market market-based rate authorization will allow it to  
7 make sales of electric energy and capacity to wholesale market purchasers. The Facility  
8 will not make direct retail sales of electricity or provide retail electric service to end users  
9 in Virginia. As such, C4GT's rates and services will be regulated by the FERC and not  
10 by the Commission.

11 **Q. WHAT IS THE ESTIMATED COST OF THE FACILITY?**

12 **A.** C4GT requests that the Commission waive any requirements to provide cost-related  
13 information, or in the alternative that it be treated as Extraordinarily Sensitive  
14 Information. Without waiving the foregoing, C4GT responds that the estimated cost of  
15 the Facility is currently anticipated to be approximately [BEGIN

16 **EXTRAORDINARILY SENSITIVE INFORMATION]** [REDACTED]

17 [REDACTED]

18 [REDACTED]

19 [REDACTED]

20 [REDACTED] **[END EXTRAORDINARILY SENSITIVE INFORMATION]**

21 **Q. PLEASE DESCRIBE THE FINANCING ARRANGEMENTS C4GT INTENDS TO**  
22 **EMPLOY FOR THE FACILITY.**



1 A. The development of the C4GT Facility will be funded by Ares Charles City, LLC which  
2 was established for the purpose of investing in C4GT. Ares Charles City, LLC is an  
3 affiliate of Ares EIF Management, LLC ("Ares EIF"). Ares EIF has a 29-year track  
4 record investing in power and energy infrastructure assets. Since inception, Ares EIF-  
5 managed funds have made approximately 70 equity investments in nearly 130 different  
6 power and energy infrastructure assets with a combined underlying enterprise value  
7 exceeding \$20 billion. In the last decade alone, funds managed by Ares EIF have invested  
8 in more than 8,200 gross MW of greenfield projects representing nearly \$10 billion of  
9 capital costs. Ares EIF-managed funds are experienced investors in new-build generation  
10 and transmission in the United States construction.

11 **Q. PLEASE DESCRIBE THE ECONOMIC, TAX, EMPLOYMENT AND OTHER**  
12 **BENEFITS ASSOCIATED WITH THE FACILITY.**

13 A. The Facility will have a positive impact on the economy of Charles City County and the  
14 Commonwealth of Virginia. The Charles City County officials have been very  
15 supportive of this project, but careful to assure the project will meet all local  
16 requirements. This indicates to us that the County considers the project will have  
17 positive economic benefits. For example, the Facility is expected to provide substantial  
18 local and regional benefits by providing millions of dollars in annual property taxes over  
19 the life of the Facility once it is operational. At peak construction there will be  
20 approximately 600-800 workers on site during a 30 – 33 month construction schedule.  
21 During operation, the Facility will require approximately 18-22 full-time employees.  
22 Jobs during construction and operation will yield millions of dollars in payroll, and have  
23 significant indirect economic benefit locally and regionally. [BEGIN

**EXTRAORDINARILY SENSITIVE INFORMATION]** [REDACTED]

[REDACTED] [END]

**EXTRAORDINARILY SENSITIVE INFORMATION]** As discussed more fully in the Direct Testimony of Mr. Thomas O. Pritcher, a Senior Engineer with Environmental Consulting and Technology, Inc., the Facility will be designed to minimize any adverse environmental impact.

**Q. PLEASE DISCUSS HOW THE FACILITY IS IN THE PUBLIC INTEREST.**

**A.** As described in my testimony and further described in response to Question 14 in Attachment 1 to the Application, the Facility will promote the public interest by providing continuing economic benefits to the Commonwealth of Virginia, Charles City County, and the surrounding area; by enhancing the competitive market for wholesale electricity in Virginia; help meet regional electricity and reliability needs; enhancing service reliability; and by providing a significant source of new merchant generating capacity in Virginia. The economic benefits will come primarily from the increased tax base that the Facility will add to Charles City County and the Commonwealth of Virginia, as well as the temporary employment of approximately 600 – 800 workers and approximately 18 – 22 full-time employees. Jobs during construction and operation will yield millions of dollars in payroll, and have significant indirect economic benefit locally and regionally.

**Q. DOES THIS CONCLUDE YOUR PREPARED DIRECT TESTIMONY?**

**A.** Yes, it does.